



**DETERMINING ADEQUATE YEARLY PROGRESS IN A STATE PERFORMANCE  
OR PROFICIENCY INDEX MODEL**

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**Council of Chief State School Officers  
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**2009**

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## DETERMINING ADEQUATE YEARLY PROGRESS IN A STATE PERFORMANCE OR PROFICIENCY INDEX MODEL

### INTRODUCTION

The purpose of this paper is to present an overview regarding how several states use a performance or proficiency index in their determination of adequate yearly progress (AYP) under the No Child Left Behind Act of 2001 (NCLB)<sup>1</sup>. Typically, indexes are based on one of two weighting schemes: (1) either they weight academic performance levels—also referred to as student academic achievement levels—or (2) they weight proficiency by student enrollment—those enrolled for a full academic year—across grades in order to adjust for differing Annual Measurement Objectives (AMOs) in a school or district.

In response to a mid-2009 inquiry, a U. S. Department of Education (ED) official distinguished between these two forms of indexing, stating from a personal perspective (P. Rooney, personal communication, June 3, 2009):<sup>2</sup>

- **Performance Index**—This type of index provides partial credit for students scoring less than proficient on state assessments.
- **Proficiency Index**—This type of index does not involve providing partial, or even full, credit in relationship to scores on state assessments; instead, it is an accounting measure for aggregating student scores when AMOs deviate grade-by-grade or grade span-by-grade span.

Performance indexing is not a measure of individual student achievement over time. Rather, it is a “point in time” method of recognizing progress in student cohorts’ academic subject mastery across performance levels resulting in weighted credit for that progress in school and district accountability determinations. Performance indexing differs from percent proficient determinations in that the former always involves the calculation of student achievement using weighted measures across two or more achievement levels. Changes in index scores over time will almost always reflect a change in the composition of student cohorts; not changes in the achievement levels of a particular group of students from one year to the next.

Seventeen states currently use ED-approved indexing models in their adequate yearly progress (AYP) determinations—either a proficiency model, a performance model, or a combination model. Information on how

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This paper focuses solely on the use of indexes in connection with federal educational accountability systems (NCLB). Several states also have an accountability system in which indexing is not used for NCLB purposes but is used to incorporate or combine multiple elements/components creating a formula to evaluate schools and otherwise report school effectiveness to the general public.

<sup>2</sup> ED has never officially stated how, and if, it distinguishes between these two forms of indexing and some states appear to use the terms interchangeably.

states incorporate indexing in their accountability system can typically be found under Critical Elements 3.1 and 9.1 of their educational accountability workbooks<sup>3</sup>.

States and others interested in the use of indexing in educational accountability systems believe that this approach:

- Rewards schools for improvement that crosses achievement levels, regardless of the amount of growth. (New Hampshire)
- Encourages efforts to improve the academic achievement of the current year's student cohort over the prior year's cohort. (Dunn, 2009)
- Represents a more precise measure of students' academic achievement; one that is also more sensitive to cohort changes from year to year.
- Fosters improvement in both academic instruction and school climate. (Dunn, 2009)

ED has never required states to provide the algorithm they use, or even to describe this algorithm, in calculating the percent of students proficient in reading or language arts and mathematics (consistent with state definitions of "proficiency"). Until 2006, ED routinely approved performance indexing proposals from states as long as reading or language arts and mathematics achievement scores were calculated separately and the index was not weighted such that achievement at a higher performance level (e.g., students scoring above proficient) compensated for lower achievement (e.g., students scoring below proficient).

At that time (2006), ED did not communicate to states whatever reservations or concerns may have arisen within the department regarding the use of **performance index models** in AYP determinations. However, the department again began requiring some states to submit impact data<sup>4</sup> regarding the number of schools meeting AYP based on status determinations, performance indexing determinations, confidence intervals, and the application of uniform averaging in connection with AYP calculations. The reasons for this additional documentation have never been articulated by the department nor has the department released any information it may have received with respect to the impact data. Nevertheless, it appears to many observers that whatever controversy had arisen about indexing centered on performance indexing. No one at the agency seems to have questioned the use of proficiency indexing because this is viewed as more of a "bookkeeping adjustment" to ease comparisons between schools of differing grade spans and grade sizes (C. Edwards, personal communication, June 18, 2009).

As previously stated, this paper is intended to provide an overview of how some states have used indexing—especially performance indexing—in connection with AYP determinations since the enactment of NCLB. In the following sections, a description, chronology, and discussion of significant events in the evolution of index models since 2003 is presented together with a summary of impact data and research (to the extent that such have been identified) and an overview of the ED-approved state index models.

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<sup>3</sup> All states are required to file with ED an educational accountability "workbook" describing various components of their educational accountability systems in order to document and establish compliance with NCLB provisions. The workbooks are subject to peer review and ED approval.

<sup>4</sup> A few states submitting performance index proposals in their initial educational accountability workbook were also required to submit impact data.

This paper is not intended to explore the:

- Qualitative, technical, or persuasive nature of, particularly, performance indexing;
- Extent to which relationships may exist between indexing and growth modeling as they impact states' accountability systems; or,
- Reasons that some states added performance indexing to their accountability systems.

Nevertheless, it is hoped that in addition to being instructive to states interested in modifying their accountability systems to include performance indexing, the paper will serve as a basis for additional, in-depth research. Brian Gong of the Center for Assessment has suggested elements of a framework that could serve this purpose centering more on what the “relationship is—including impact—between ideal index and ideal growth systems” rather than approaching either or both from the perspective of what it takes for ED approval (B. Gong, personal communication, July 17, 2009). Gong believes that it is important to know more about the validity of index models for accountability in terms of “the key decisions, and what makes a difference in terms of valid accountability results.” The framework he suggests would include an exploration of “the significant differences between the several ‘performance index systems’ that have been approved” by ED including “when . . . one [might] be more appropriate to use than another” assuming that the differences among the models would warrant such consideration.

Certainly, a compelling argument for the type of research Gong suggests is the looming NCLB reauthorization. That reauthorization is very likely to change the statutes and the policy related to indexing and growth models. To the extent that more is known about the validity of various performance indexing models, CCSSO and states may be better positioned to offer specific recommendations to support principles underlying multiple ways to validly portray students' academic achievement in relation to states' academic content standards.

## SIGNIFICANT EVENTS IN THE EVOLUTION OF INDEX MODELS

Presented in this section is a capsule description together with commentary regarding significant events related to ED's approval of states' requests to use indexing in their educational accountability models under NCLB. An overview or synopsis of these events and their significance is also provided in Appendix A.

**January 2002**—NCLB signed into law. Although not expressly stated, the law's framework supports the use of weighting student achievement in accountability calculations. However, ED does not include in its non-regulatory guidance questions or information related to indexing. Instead, the department provides limited direction to states (on a case-by-case basis) in its accountability workbook decision letters without communicating those stipulations to all states.

**November 21, 2005**—then ED Secretary Margaret Spellings sends a letter to chief state school officers announcing a growth model pilot program. The letter includes information related to the use of indexes in making AYP determinations but does not foreshadow the potential of additional conditions/stipulations to come in the future concerning states' use of indexing in AYP determinations. The Secretary characterizes indexing (without specific reference to performance indexing) as “an alternative to the ‘status’ model of AYP decision-making<sup>5</sup>.” The

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<sup>5</sup> While performance indexing is itself a status measure, it appears that the Secretary's reference to “the ‘status’ model of AYP decision making” was solely in the context of determining percent proficient. What the Secretary meant by stating that indexing could be used as an alternate to status is unclear; she clearly did not state that it must be used “instead” of status or percent proficient. This is a matter that should have been clarified by example or non-regulatory guidance at the time.

Secretary's letter summarizes "conditions" the department had followed to that point in approving performance index proposals, stating that the index:

- Cannot give extra weight to students scoring above proficiency so as to mask performance in the lower achievement levels;
- Must be such that it can be calculated separately for reading or language arts and mathematics and for each student group;
- Cannot allow for schools or districts to make AYP without also increasing the percent of students who are proficient; and
- Must be consistent with NCLB and its regulations including provisions on annual measurable objectives (AMOs) and intermediate goals (IGs).

**June 27, 2007**—then Assistant ED Secretary Kerri Briggs sends a letter to chief state school officers in 12 states approved to use **performance indexes** in AYP determinations (AL, MA, MN, MS, NH, NY, OK, PA, RI, SC, VT, and WI). The letter invites them to send representatives to a meeting to analyze "the impact of performances indexes on AYP determinations to ensure that they support accountability." Briggs further states that, "The Department will use the guidance from this meeting to inform any necessary changes to the current use of performance indexes by States, as well as any future proposals from States that wish to use an index in determining AYP." No information was included in the letter that could have provided insight as to what "necessary changes" might be needed or what specific concerns the department may have had at the time regarding the use of performance indices. However, that became clearer after the department's meeting with the state representatives the following September.

**September 7, 2007**—ED hosts an invitational meeting for states using performance indexing (those using a proficiency model were not invited). At this meeting, ED representatives articulated five main reasons (italicized below) supporting the perceived need for specific guidance around performance indexing systems (B. Gong & S. Marion, personal communication, September 18, 2007):

1. *There are some approved state index systems that might need to be modified to better match the spirit of NCLB [No examples were provided.]. ED would like to develop and share a set of concrete principles [As opposed to guidance or regulations?] on which to base evaluations of state index systems. These principles would allow states to better understand what is required for an approvable index system.* Coming more than four years after ED's initial approval of index models, the department would appear to have had ample time to clearly articulate exactly what constituted "an approvable index system;" especially if that system differed at all from the "conditions" summarized in the November 2005 letter from then Secretary Spellings.
2. *ED would like to issue more specific guidance regarding index systems prior to having more states apply to include index systems in their accountability workbooks.* As discussed elsewhere in this paper, the department has yet to provide non-regulatory guidance for states interested in using or refining performance (or proficiency) indexing in their AYP determinations.
3. *ED and the field have learned more about index systems over the past several years. In particular, ED has had some questions raised as it has interacted with some states recently and wants to consolidate its learning through continued interaction with states and then capturing that learning in guidance.* The specifics of what "ED and the field have learned" were not provided nor did the department describe the "questions raised" or disseminate any of the impact data it may have received from states.
4. *The current draft U. S. House of Representatives ESEA reauthorization legislation [specific bill not cited] addresses index systems and ED would like to move states towards being compliant with the anticipated*

*reauthorization changes.* Given that there has yet to be any reauthorization legislation that has moved forward, ED's rationale here can only be characterized as speculative at best and should have been acknowledged as such. Further, provisions in the draft legislation affecting performance indexing should have been described.

5. *Related to #1, ED would like to move states towards being compliant with current statutes because some previously approved index systems may not be legally compliant<sup>6</sup> (we note that no agreement was expressed in the meeting about this particular point).* Exactly why ED felt the need to "un-approve" some state performance index systems because the department perceived that they would not meet the guidance or statutes (whatever the substance and scope of that was considered to be at that time) is unknown. ED officials proposed subjecting all states with performance indexing systems to Peer Review in early 2008; a proposal that the participating states "vigorously opposed."

As a result of the meeting, and based on comments received there, ED commissioned the development of draft guidance on the use of performance indexes in AYP decisions. However, in a November 16, 2007, email from an ED official to participants in the September meeting, it was stated that the resultant draft guidance that had been developed (which actually took the form of principles), "remains under review and is unlikely to be released while the department re-thinks the matter" (Rooney, 2007, November 15).

**June 10, 2008**—then Assistant Secretary Briggs sends a letter to Minnesota and Pennsylvania<sup>7</sup> state education agencies denying approval of their requests to incorporate a growth model in their accountability systems because of an "existing performance index." This decision added yet another previously unannounced criterion<sup>8</sup> related to growth models stemming from the peer review process. In her letter to each state, Briggs asserted:

The Department has concerns about the appropriateness of allowing a state to include both a performance index and a growth model in its accountability system. I will task the . . . National Technical Advisory Council [NTAC] to review this issue and provide feedback on if, and when, it may be reasonable to include both components in its accountability system. We will provide additional guidance on this question this summer.

The November 21, 2005, letter from former ED Secretary Spellings did not include any mention that the department might eventually prohibit states from using both performance indexing and growth models in their accountability systems or otherwise add to the "conditions" for approving index models. Further, the department has yet to provide any non-regulatory guidance let alone "additional guidance," and there is no record in either the September or November 2008 NTAC meeting notes that the group was directly, or indirectly, asked to "review this issue and provide feedback." Additionally, while the Title I regulations issued by the department in October 2008

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<sup>6</sup> It was not until December 2008, that ED officially conveyed to states what "current statutes" the department believe apply to the use of performance indexes in AYP determinations.

<sup>7</sup> Pennsylvania later received a letter from former Secretary Spellings on January 8, 2009, giving conditional approval to the state's use of a growth model (in addition to performance indexing) for AYP determinations. The conditional approval was predicated on Pennsylvania's compliance with the provisions set forth in a December 8, 2008, letter to chief state school officers (see next page). The Secretary stated that, "Pennsylvania must set its . . . [AMOs] on the performance index, establish validity and reliability of its split academic achievement levels, and create a single trajectory for all students toward 100 percent proficiency." Pennsylvania then appealed the condition on April 15, 2009. Following a conversation with ED officials on May 15, ED rescinded the conditional approval but left the door open for a subsequent negotiations including waiver request (Conaty, 2009). It was reported that the state later decided to suspend the use of its performance indexing system for 2008-09 AYP determinations in favor of growth modeling. Pennsylvania intends to revise their index system during 2009-10 to meet ED requirements and then continue its use in AYP decisions that year (assuming ED approval).

<sup>8</sup> ED has consistently "announced" new or additional criteria with respect to both performance indexing and growth modeling that have never been subjected to prior notice, public comment, or external review.

included a new section (§200.20(h)) related to growth models, the new regulations are silent on both this matter and the matter of indexes in general.

**September 16, 2008**—the National Technical Advisory Council (NTAC) holds its first meeting. The first agenda topic is a discussion of performance indexes. Included in the background materials is reference to the September 2007 meeting ED held with the 12 states using a performance index. Commenting that the department had received “feedback [on proposed principles—earlier referred to as ‘conditions’ by Secretary Spellings] . . . and decided to revise the proposed principles,” the NTAC members were briefed on six principles for the use of performance indexing. These were the four “conditions” listed by Secretary Spellings in her November 2005 letter plus two new ones—(1) the index is tied to state-defined levels of performance and (2) the state reports to parents and the public student achievement based on the levels of performance used in the index. According to the meeting minutes and briefing papers, there was no discussion of prohibiting states with approved performance indexing models from incorporating growth models in their accountability systems as stated in Assistant Secretary Briggs’ June 10, 2008, letters to Minnesota and Pennsylvania. It was also apparently not discussed by the NTAC in their later discussion of growth model issues although one of the questions for the panelists was, *“Can there be too many ways to make AYP?”*

**October 29, 2008**—then ED Secretary Spellings releases “sweeping” new Title I regulations including a requirement for states to explain in their accountability workbooks how minimum student group sizes and other AYP definition components such as indexes combine to provide statistically reliable information. The regulations also include significant changes to the manner in which high school graduation rates are to be calculated, used in AYP determinations, and reported. They do not include any provisions related to the use of index models—either performance or proficiency.

**December 2, 2008**—then Assistant Secretary Kerri Briggs sends another letter to chief state school officers providing “updated guidance with respect to performance indexes and their role in accountability decisions.” It appears that the letter and resulting new constraints have been motivated in large measure because the department had concluded that performance indexes were much more complex than originally thought. The “guidance,” is presented, for the first time, in the form of eight “statutory requirements governing AYP [those the department now believes to be applicable to performance indexing],” not in the form of non-regulatory guidance.

Arguably, the “statutory requirements” introduce additional criteria for states already approved to use performance indexes; requirements that seem to have no explicit provisions in either the statutes or regulations. Further, these states would be required to submit their indexing rationales and “demonstrate to the Department . . . that its index conforms to the statutory requirements” set forth by Briggs in advance of applying the 2009-10 assessment results (requirements now slated to be rescinded by Secretary Arne Duncan).

The most significant new “requirement,” might be the one based on a heretofore never surfaced interpretation of the NCLB statutes. This requirement would restrict states from applying performance indices “as an additional method of determining AYP” or in lieu of any other method; indexing could only be applied “in lieu of the percentage of students scoring proficient and above” as the sole method of determining percent proficient. This requirement stems from a statutory interpretation that concludes, “The state must incorporate its performance index in its . . . (AMOs) and use those AMOs to determine AYP for all districts, schools, and subgroups in the state.” Further, “Thus, in determining AYP, the performance index is applied in lieu of the percentage of students scoring proficient and above, rather than as an additional method of determining AYP. Performance indexing is a means of weighing student achievement and, thus, a method of calculating the extent to which the AMOs are met in a given subject.” Briggs’ letter did not provide an example of how a performance index could be incorporated into a state’s AMOs. She also did not address technical considerations that would argue for separate AMOs for use with indexing decisions versus those used for percent proficient decisions.



Among other things, this restriction appears to markedly contradict former Secretary Spellings' November 2005 characterization of indexing as "an alternative to the 'status' model of AYP decision-making." Presumably, states could still use confidence intervals, uniform averaging, and safe harbor reviews (the latter two being statutorily permissible). This interpretation of the statutes appears to fail to recognize that a performance index system is, in fact, a status measure; not an improvement or growth measure applied to two or more years of a student's schooling. Given the conceptual differences, ED should have provided a rationale for why states could not use both in their educational accountability systems.

Other new requirements related to the use of performance indexes were:<sup>9</sup>

1. State's "AMOs that are based on the state's performance index must result in 100% of students being proficient or advanced by 2013-14."
2. States must ensure that their performance indexes are statistically valid and reliable as well as technically sound (although no indication was provided as to what the department might expect by way of sufficient evidence to meet these tests).
3. States and LEAs must include in their annual report cards student achievement data in the aggregate and disaggregated by the levels of performance used in the index model.

The Assistant Secretary's timing and interpretation of NCLB law seem to have only raised more questions. For example: *"Why did ED decide that such a restriction would apply only to performance indexing and not other methodologies such as growth models?" "Why was this not included in the NTAC discussions of performance indexing on September 16, 2008?"*

The potential impact of this restriction on states using performance indexing can be illustrated in the model approved for Pennsylvania (August 19, 2005). In this case, ED stated: "In addition to status and 'safe harbor,' Pennsylvania requests to use the PPI [Pennsylvania Performance Index] . . . to determine whether a school or district makes AYP. If a school or district does not meet AYP through status or 'safe harbor,' it will be determined to make AYP if it meets its PPI target." Whether ED intends to make its regulatory interpretations retroactive regarding performance indexing in situations like this is unknown at this time. In Pennsylvania's case, ED subsequently revoked its conditional approval for the state to include a growth model in its accountability system (see footnote #7).

**April 1, 2009**—Secretary of Education Duncan sends a letter to chief state school officers proposing changes in a few of the regulations promulgated in October 2008, while leaving the majority in effect. Of most immediate impact, the Secretary stated that he would seek to repeal the requirement that states revise their educational accountability workbooks and submit those for peer review in mid-2009. Repeal of the workbook revision requirement means that states will not have to submit additional justifications of many components of their educational accountability systems used to make AYP determinations including those associated with performance indexing.

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<sup>9</sup> It should be noted that while the Assistant Secretary's letter incorporates the four "conditions" cited by then Secretary Spellings in 2005, it does not mention the department's mid-2008 decision related to prohibiting Minnesota and Pennsylvania from using both performance indexing and growth modeling in their accountability systems nor does it cite a "statutory requirement" that might apply to the prohibition.

## THE IMPACT OF USING PERFORMANCE INDEXING IN AYP DETERMINATIONS

As noted at the beginning of this paper, ED asked a few states in 2002-03 for impact data and resumed that request in 2006 for those states proposing to implement performance indexing in AYP determinations.

Unfortunately, ED has never made the data available in any format including, for example, a summary report or paper on the impact of performance indexing in AYP determinations. Presented in this section are outcome data received from four states on how the use of performance indexing impacted AYP determinations in their states. Since these states each use differing indexing systems, the results should not be considered to be comparable or necessarily representative of performance indexing systems in general.

In two instances—New Hampshire and Pennsylvania—outcome data are presented for both performance indexing and growth modeling. It should be noted that just as there are various performance indexing models, there are various growth models. Thus, any attempt to make comparisons between indexing and growth in terms of impacting AYP decisions under NCLB must take into account how these differences may affect the results and/or conclusions.

**New Hampshire.** First approved to use performance indexing in AYP calculations in 2006, New Hampshire later sought approval to also use growth modeling in the state's accountability system. Although ED did not approve that request, New Hampshire includes the growth model pilot to track student achievement over time but does not use the results in AYP determinations. Thus, the state is one of the very few generating outcome data from both performance indexing and growth modeling permitting a unique opportunity to examine the impact of each on school accountability determinations at the elementary and middle school levels (growth indicators are not applied in NH at the high school level).

In 2008-09, NH conducted an "analyses to determine the extent to which schools that met the [performance] index target also met the growth target. In other words, do these methods identify similar or distinct groups of schools?" (D. Wiswell, personal communication, July 17, 2009) Among the state's findings (for the "all students" group only) were:

- In reading, 233 (61.3%) of the schools met the performance index target and 147 (38.7%) did not.
- In reading, 75 (19.7%) of the schools met the growth target and 305 (80.3%) did not.
- In mathematics, 212 (55.8%) of the schools met the performance index target and 168 (44.2%) did not.
- In mathematics, 65 (17.1%) of the schools met the growth target and 315 (82.9%) did not.

In analyzing the data, New Hampshire representatives commented that:

- In reading, all 75 schools that achieved the growth target also achieved the performance index target. Conversely, none of the 147 schools that failed to meet the index target achieved the growth target.
- In mathematics, all 65 schools that achieved growth also achieved the performance index target. Only 2 of the 168 schools that failed to meet the index achieved the growth target.
- Overall, fewer schools achieve growth targets compared to performance index targets. Moreover, schools achieving the growth targets are usually a sub-set of the group meeting AYP through the performance index. Conversely, very few of the schools that fail to meet the index target meet the growth target. If

growth were added as an alternate path for schools to make AYP, these data suggest the impact in New Hampshire would be very slight.<sup>10</sup>

**New York.** In its initial submittal of impact data focusing on the use of performance indexing in safe harbor reviews, New York examined data from its 2001 and 2002 state assessments. The number of schools that met the English Language Arts or Mathematics requirements in grades 4 and 8 for AYP through the safe harbor provision and the number of those schools with no increase in the percentage of students scoring at the proficient level are shown in Table 1 below (the state did not provide data on the total number of schools or the percent of schools represented).

**Table 1**

**New York Schools Making Safe Harbor with No Increase in the Percent Proficient (2002)**

Assessment	Number Making Safe Harbor	Number with No Increase in Percent Proficient
Elementary English Language Arts (Grade 4)	192	8
Elementary Mathematics	120	2
Middle-Level English Language Arts (Grade 8)	176	40
Middle-Level Mathematics	309	5

New York indicated that, in 2002, the number of students scoring at Level 1 on the grade 8 ELA assessment was almost one-half that in 2001 (7.2% compared to 13.6%). Clearly, it is exceptionally unusual for schools to make AYP by moving large numbers of students from basic to basic proficiency without also increasing the percent of students who are proficient.

**Pennsylvania.** The state made its 2007-08 AYP determinations using performance indexing (Pennsylvania Performance Index). It also conducted growth calculations using a model that ED conditionally approved in January 2009, but those results were not used for AYP purposes. The results, shown below in Table 2 (Weiss, 2009), afford a unique opportunity to examine how different accountability measures—status, safe harbor, performance indexing, and growth—might be alike and how they might differ. Rows 1, 2, 4, and 5 reflect what the results would have been if school AYP determinations had been made using only that single metric for every student group. However, to make AYP determinations, Pennsylvania applies four AYP determinations in a particular order—status (percent proficient), safe harbor, PPI, and (when approved by ED) growth. Rows 3, 5, and 7 reflect the cumulative, progressive effect of applying these AYP tests or metrics.

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<sup>10</sup> These results seem to merit additional research. What are the state's requirements for growth? Are they such that students crossing a given achievement level raises the index calculation as well? Are the below proficient levels too narrow and the growth requirements too large? Are the results impacted by student mobility (high or low)? Are the student groups more homogeneous than that found in other states?

**Table 2**

**Comparing Different Accountability Measures in Pennsylvania (2007-08)**

<b>Schools That Made Performance Targets</b>	<b># of Schools</b>	<b>% of Schools</b>	<b>Total Number of Schools in Calculation*</b>
1. Using Only Status (Percent Proficient)	1,407	45.3%	3,105
2. Using Only Safe Harbor	361	12.1%	2,979
3. Using Status + Safe Harbor (SH)	2,085	70.0%	2,979
4. Using Only PPI	918	30.8%	2,978
5. Using Status + Safe Harbor + PPI	2,215	74.4%	2,978
6. Using Only Growth	2,145	69.1%	3,105
7. Using Status + SH + PPI + Growth	2,447	82.2%	2,978

\*Schools must have scores for two consecutive years to calculate safe harbor, PPI, or growth.

In examining the data presented in Table 2, it is important to recognize that the results of the various measures are not mutually exclusive. For example, one will note that 1,407 schools made AYP targets using the status only measure while 361 made the targets using only a safe harbor review. Yet, it is reported that 2,085 schools (versus  $1,407 + 391 = 1,791$ ) made the targets using status plus safe harbor. In this example, the 294 school difference is accounted for by schools using status for some student groups and safe harbor for others; in other words, 294 schools made AYP targets as a result of a status/safe harbor combination, 391 using safe harbor exclusively, and 1,407 using status exclusively.

Marianne Perie of the Center for Assessment has worked with Pennsylvania to examine how various measures affect the outcome of AYP determinations. In this case, Perie concluded that (2009, p. 10):

*The growth model identifies more schools as meeting the targets than the PPI, in part because it focuses on the growth of individual students and not the overall performance of two cohorts of students. Most likely, these schools include students that have moved from a lower 'high basic' to a higher 'high basic'<sup>11</sup> moving them towards Proficient, but not in a way captured by the PPI. Conversely, the schools meeting their targets under PPI but not growth are most likely showing improvement from Below Basic to Basic [or from Basic to Proficient or Advanced], but not at a rate that will allow enough students to reach Proficient within two years.*

Perie also noted that the state examined two additional comparisons—(1) status plus growth and (2) status plus safe harbor plus growth—but chose not to display them in Table 2. Regarding these comparison she explained (M. Perie, personal communications, July 28, 2009):

*With respect to the first additional comparison, the only reason a school would make status but not growth is if a significant portion of students were getting worse (downward trajectory). We did not find an example of*

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<sup>11</sup> It was unclear from the analyses whether similar results could be expected in future years given the sensitivity of score distributions close to the cut points that distinguish the different performance or student academic achievement levels.

*that. Because of the nature of Pennsylvania’s growth model, all schools that made status also made growth; thus, in this case, status plus growth would be the same as the number of schools making growth alone (2,145).*

With respect to the second additional comparison, all of the comparisons Pennsylvania completed on growth modeling versus the PPI were made on schools that did not make either status or safe harbor reviews. Therefore, the answer to this additional comparison can be determined by:

- ✓ taking the number of schools that made AYP through status or safe harbor from row three (2,085); and
- ✓ adding that number (2,085) to those schools those who would have made AYP targets on growth (305—73 of these schools also made PPI) only after the application of Pennsylvania’s first three AYP tests or metrics and the answer to the second additional comparison is 2,390 schools.

In discussing Pennsylvania’s unique examination of the impact of both performance indexing and growth modeling on accountability systems, John Weiss (2009), an administrator at the state’s Department of Education, concluded:

*In summary, it is important to articulate and recognize the different definitions for a successful school. Matching the definitions to the model and holding true to the goal of 100% proficient by 2014 allows for the flexibility of using multiple metrics to calculate the effectiveness of a school. Ideally, the results of all metrics will be communicated to school leaders and analyzed at the state and district levels to better understand where schools are doing well, where they are struggling, and any potential concerns for the future that may be identified early.*

**Wisconsin.** In 2006, required by ED to discontinue using the Standard Error of Measure (SEM) in its AYP calculations (in addition to using a confidence interval), the state received approval to use a performance index. At the time, the agency estimated that foregoing use of the SEM would quadruple the number of schools missing AYP targets. Adding indexing back would off-set that slightly (quadrupling versus tripling the number of schools missing achievement targets). In actuality, the number of schools missing AYP achievement targets stayed about the same. (L. Russell, personal communication, June 4, 2009)<sup>12</sup>

## OVERVIEW OF APPROVED STATE INDEX MODELS

Presented in Table 4 is an overview of the performance and proficiency indexing models used in those states approved by ED to incorporate same in their AYP determinations. As noted earlier, according to ED’s distinction between performance and proficiency, there are three possible “models:” (1) performance, (2) proficiency, and (3) a combination of both. The information provided for the Massachusetts, Mississippi, and South Carolina models is somewhat more extensive in that these were either among the first or more expansive approved by ED. Mississippi’s model was also frequently recommended by the department to many states as a model for proficiency indexing.

The performance indexes appear to fall into three, somewhat distinct “categories” although variations of the first appear in both the second and third. Listed by category in Table 3 are the states approved in each of these categories.

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<sup>12</sup> According to ED statistics, Wisconsin has one of the lower rates among the state for schools/districts identified for improvement. Whether this may be the case is not within the purview of this paper. With respect to validity and reliability of the outcome, it is important to ask what else the state may have done that impacted the results. For example, would a growth model have produced different results?

These are:

1. Weight achievement at levels below proficient that (a) do not split levels into high and low (e.g., low basic and high basic) or (b) do split these levels into high and low performance.
2. Use the index as the sole basis for AYP and safe harbor calculations.
3. Use the index in addition to status and safe harbor calculations.

A few states have also sought ED's approval for a fourth category—use the performance index in conjunction with a growth model to make accountability determinations.

**Table 3**

**States with ED Approved Index Models**

<b>Performance Index</b>	<b>Proficiency Index</b>	<b>Combination</b>
Idaho	Iowa	Alabama
Massachusetts	Michigan	Mississippi
Minnesota	Washington	
New Hampshire	Wyoming	
New Mexico <sup>13</sup>		
New York		
Oklahoma		
Pennsylvania		
Rhode Island		
South Carolina		
Vermont		
Wisconsin		

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<sup>13</sup> In 2008, New Mexico decided to forego its approval since the state had not used indexing when calculating AYP.

**Table 4**

**Overview of Approved Index Models**

<b>State and Contact Information</b>	<b>Year Approved</b>	<b>Model</b>	<b>Comments</b>
<p><b>1. Alabama</b> (combined performance and proficiency model)</p> <p>Gloria Turner <a href="mailto:gturner@alsde.edu">gturner@alsde.edu</a></p>	2005	<p>Weighted performance (achievement) model applied to both schools (grades w/in schools combined) and districts (separately for 3-5, 6-8, and 11) drawing from Mississippi and South Carolina models. Alabama weights students at or above proficient 1.0; partially meets standards at .5; and those not meeting standards at zero.</p> <p>Example of reading for Hispanic students in a school with grades 4 and 5:</p> <ul style="list-style-type: none"><li>• Grade 4 AMO for the year = 49% proficient:<ul style="list-style-type: none"><li>◆ Percent of Grade 4 Hispanic students (N=20) proficient = 54%</li><li>◆ Difference = +5%</li></ul></li><li>• Grade 5 AMO for the year = 35% proficient:<ul style="list-style-type: none"><li>◆ Percent of Grade 5 Hispanic students (N=30) proficient = 20%</li><li>◆ Difference = -15%</li></ul></li><li>• Weighting constants (grade n/total n):<ul style="list-style-type: none"><li>◆ Grade 4 = <math>(20/50) = .4</math>;</li><li>◆ Grade 5 = <math>(30/50) = .6</math></li></ul></li><li>• Hispanic reading proficiency index = <math>.4(+5\%) + .6(-15\%) = (+2\%) + (-9\%) = -7\%</math></li></ul> <p>In this example of weighted averages across grades, a proficiency index of zero or higher would indicate that the AMO had been met by the student group. Here, the</p>	<p>Extensive formula-driven model.</p> <p>Amended in 2006.</p>

State and Contact Information	Year Approved	Model	Comments
		group is below the AMO by 7%. The state then applies 99% confidence interval to $n=50^{14}$ to determine whether the student group meets AYP.	
<b>2. Idaho</b> (performance model)  Mike Rush <a href="mailto:Mike.rush@osbe.idaho.gov">Mike.rush@osbe.idaho.gov</a>	2009	Allocates 100 points for performance at or above proficient and 50 for basic. A school's index score is the average of all student index points assigned to the school.	Applies to school, LEAs, and all student group calculations. New starting points were calculated based on 2008 student achievement data.
<b>3. Iowa</b> (proficiency model)  Tom Deeter <a href="mailto:Tom.deeter@iowa.gov">Tom.deeter@iowa.gov</a>	2006	Multi-grade weighting model developed initially following Mississippi's model; however, student achievement is not weighted in terms of proficiency levels. Intent is to facilitate a single AYP decision in situations where multiple AMOs may be at play due to grade level configurations (20 possible combinations in the state).	Applies to both status and safe harbor reviews as well as growth model calculations.
<b>4. Massachusetts</b> (performance model)  Kenneth Klau <a href="mailto:kklau@doe.mass.edu">kklau@doe.mass.edu</a>	2003	<p>In MA, AYP is determined on the basis of participation in the state assessments, performance or improvement, and the OAls. Performance is a measure of the extent to which a student group meets the state's AMOs determined by the Composite Performance Index (CPI). Improvement is a measure that looks at the extent of change in a student group from one school year to the next.</p> <p>Under the CPI, each student participating in MCAS or MCAS-Alt tests is assigned points based on their performance (0 points for warning/failing low; 25 for warning/failing high; 50 for needs improvement low; 75 for needs improvement high;</p>	MA was using a proficiency index prior to the enactment of NCLB in 2002 and received approval from ED to use the index as the basis of AYP performance and improvement calculations

<sup>14</sup> Technically, confidence intervals are based on standard deviations. In this case, the "pooling" for grades 4 and 5 assumes that the standard deviation is the same in spite of differences in group sizes. It is not unusual to have large differences in the percent proficient and also the standard deviations related to the distributions between elementary, middle, and high schools. (B. Gong, personal communication, July 27, 2009)



State and Contact Information	Year Approved	Model	Comments								
		<p>and 100 for proficient or advanced). The total points assigned to each student are added together and the sum is divided by the total number of students assessed. The result is a number between 0 and 100, which constitutes a district, school, or group’s CPI for that subject. The CPI is a measure of the extent to which students have achieved or are progressing toward proficiency in English language arts, reading, and mathematics. The CPI is applied to school, district, and state AYP determinations. Results within schools are combined to create a single school score while district-level calculations are made separately for elementary, middle, and high school grade spans.</p> <p>The application of the performance and improvement targets can be illustrated in the following table:</p> <table><tr><th>Performance . . .</th><th>Improvement . . .</th></tr><tr><td>Is an absolute measure.</td><td>Is a relative measure.</td></tr><tr><td>Is measured by comparing a group’s current year CPI to the current year state performance target.</td><td>Is measured by looking at a group’s change in CPI from last year to this year.</td></tr><tr><td>Answers the question, “Did the group perform at or above the current year performance target?”</td><td>Answers the question, “Did the group improve from last year to this year so that it is on track to proficiency by 2014?”</td></tr></table>	Performance . . .	Improvement . . .	Is an absolute measure.	Is a relative measure.	Is measured by comparing a group’s current year CPI to the current year state performance target.	Is measured by looking at a group’s change in CPI from last year to this year.	Answers the question, “Did the group perform at or above the current year performance target?”	Answers the question, “Did the group improve from last year to this year so that it is on track to proficiency by 2014?”	in March 2003. In 2004, MA received approval from ED to use the Composite Performance Index, which combines the index points of students taking the standard MCAS tests (the "Proficiency Index") with the index points of students taking the MCAS Alternate Assessment (the "MCAS-Alt Index").
Performance . . .	Improvement . . .										
Is an absolute measure.	Is a relative measure.										
Is measured by comparing a group’s current year CPI to the current year state performance target.	Is measured by looking at a group’s change in CPI from last year to this year.										
Answers the question, “Did the group perform at or above the current year performance target?”	Answers the question, “Did the group improve from last year to this year so that it is on track to proficiency by 2014?”										
<b>5. Michigan</b> (proficiency model)  Paul Bielawski <a href="mailto:bielawp@michigan.gov">bielawp@michigan.gov</a>	2006	Multi-grade weighting model similar to Iowa’s and others except that performance is first considered in relation to separate AMOs for each grade level.									

State and Contact Information	Year Approved	Model	Comments
<b>6. Minnesota</b> (performance model)		<p>The proportion of students scoring in each achievement level is used to assign index points. Points are awarded for students at two decision points:</p> <ul style="list-style-type: none"> <li>• One-half point for each student in Level 2 (partially proficient).</li> <li>• One full point for each student in Level 3 (meeting or exceeding proficiency).</li> </ul> <p>The performance index increases the number of data points used to make decisions about schools thereby increasing the stability and consistency of the decision. The performance index also increases the validity of the accountability system since it gives schools credit for moving students from the lowest achievement level into higher levels.</p> <p>Information available at:  <a href="http://education.state.mn.us/mdeprod/groups/NCLB/documents/Manual/034397.pdf">http://education.state.mn.us/mdeprod/groups/NCLB/documents/Manual/034397.pdf</a> </p>	
<b>7. Mississippi</b> (performance and proficiency model)  Stephen Hebbler <a href="mailto:shebbler@mde.k12.ms.us">shebbler@mde.k12.ms.us</a>	2003	<p>Weights the proportion of students scoring in the proficient or advanced by 1.0, the proportion scoring in basic by 0.5, and the proportion scoring in minimal by zero.</p> <p>According to MS officials (S. Hebbler, personal communication, May 19, 2009), the indexes are used for ensuring school level equity within the state and NCLB accountability models. MS used indexes in its state accountability prior to NCLB; defined as calculations that transform a measure from its original scale or measurement unit into some other numerical scale that has no meaningful external reference.</p> <p>An example would be combining student achievement measures across grade levels and subjects when the cut scores are independently set and not equally rigorous; such as the cut score for proficiency on the grade 3 mathematics test being much less rigorous than that adopted for grade 8 mathematics. The use of an index in this case,</p>	

State and Contact Information	Year Approved	Model	Comments
		<p>rather than collapsed raw proficiency percentage values, addresses the school level equity issue.</p> <p>Using raw percent proficiency values in the accountability model would have meant combining non-comparable measures and given certain schools unfair advantage in the state's accountability system. For example, a K-3 school would automatically look better in the model than a grade 8 school simply due to grade configuration.</p> <p>The solution was to standardize the process using measures weighted by student n-counts and summed to yield a single comparable school-level measure of student achievement in a z-score format. These were transformed into a more "user-friendly" format (using a 100 to 600 point scale) called the Achievement Level INDEX.</p> <p>MS used a similar logic in the development of its NCLB indexing model. Instead of standardizing the separate grade-by-subject achievement measures, a separate AMO was set for each subject and grade that adjusted for differences in the rigor of the cut scores set for the state assessments. MS successfully argued at the time that NCLB does not prohibit the use of separate grade-level AMOs.</p> <p>After setting the separate AMOs, MS used the <i>difference</i> values (actual percent proficient or above minus the AMO value) as the basic measure of student performance in AYP calculations. When the <i>difference</i> values were weighted (by the student n-counts) and summed, the resulting value was called the "AYP Proficiency Index." The hypothetical range of the index was 0-AMO (0% students proficient) through 100-AMO (100% students proficient or above). A proficiency index value of zero (0) meant that, across all grade levels (in either reading/language arts or mathematics), the full academic year (FAY) students had "exactly" met the AMOs. At any given grade level, the <i>difference</i> value could be positive or negative.</p>	
8. New Hampshire	2006	Allocates 100 points for performance at or above proficient, 80 for the upper portion	

State and Contact Information	Year Approved	Model	Comments
<p>(performance model)</p> <p>Deb Wiswell  <a href="mailto:dwiswell@ed.state.nh.us">dwiswell@ed.state.nh.us</a></p>		<p>of partially proficient, 60 points for the lower, 40 points for the upper portion of substantially below proficient, 20 points for the lower, and zero for no score or response that fell with a “guessing” parameter. A school’s index score is the average of all student index points assigned to the school.</p> <p>NH participates in the New England Comprehensive Assessment Program and uses scaled scores for each index level. The state uses a performance index table to convert raw scores earned by students taking the NH Alternate Assessment (portfolio). NH is also conducting a growth model pilot to track student achievement over time but this model is not used in AYP determinations.</p>	
<p><b>9. New Mexico</b>  (performance model)</p>	2005	<p>Weighted performance above the lowest achievement level (without extra weight to above proficient). Schools were required to increase the percent of students scoring proficient in order to make AYP.</p>	<p>In 2008, the state decided to forego its approval to use indexing because, in practice, it had not applied the model when calculating AYP.</p>
<p><b>10. New York</b>  (performance model)</p>	2003	<p>The NY performance index involves computing the percentage of students scoring at Levels 2 (basic proficiency), 3 (proficient), and 4 (advanced), and twice the percentage of students scoring at Levels 3 and 4 only, divided by all continuously enrolled students.</p> <p>For example, if a school has 100 students and 5% of them scored at Level 1, 40% at Level 2, 40% at Level 3, and 15% at Level 4, the index would be calculated as follows: <math>40 + (2 \times 55) = 150</math>. The minimum percentage of students associated with each AMO can then be calculated by subtracting 100 from the index total (<math>150 - 100 = 50</math> in the example). The index can range from zero, if all students are at Level 1, to 200, if all students are at Level 3 or higher.</p>	<p>The prime motivation of New York’s performance index is to ensure that schools and LEAs have an incentive to focus effort and resources on students who start the school year so far below state standards that it is unlikely that they will be able to demonstrate proficiency</p>

State and Contact Information	Year Approved	Model	Comments
		The state believes that this approach incentivizes student improvement below the proficient level by providing a boost to the index value when a student progresses from Level 1 to Level 2.	by the time of the administration of the state tests. Over time, it is anticipated that the number of such students will decline.
<b>11. Oklahoma</b>		Oklahoma uses a performance index to determine AYP in reading/language arts and mathematics. Information on the state's Academic Performance Index can be found at <a href="http://www.sde.state.ok.us/AcctAssess/pdf/API/CalculatingAPIWorksheet.pdf">www.sde.state.ok.us/AcctAssess/pdf/API/CalculatingAPIWorksheet.pdf</a>	
<b>12. Pennsylvania</b> (performance model)  John Weiss <a href="mailto:jweiss@state.pa.us">jweiss@state.pa.us</a>	2005	<p>PA's accountability system is based on a status model (percent proficient), safe harbor reviews, and growth. (It had formerly included performance indexing.) In mid-2009, ED conditionally approved the state's use of a growth model component if PA would make certain changes in its performance indexing system. The state chose to incorporate the growth model for 2008-09 and to delay continued use of performance indexing. PA intends to revise its index system in 2009-10 to meet ED's recently circulated "statutory requirements" and then continue its use at that time together with growth modeling.</p> <p>As originally approved by ED, the Pennsylvania Performance Index (PPI) recognized changes across the full range of achievement but did not allocate extra points for those above proficient. The percentage of students scoring at each proficiency level is then multiplied by the weight. The weights are:</p> <ul style="list-style-type: none"> <li>• Advanced = 1.0</li> <li>• Proficient = 1.0</li> <li>• High Basic = 0.8</li> <li>• Low Basic = 0.6</li> <li>• High Below = 0.4</li> <li>• Low Basic = 0.2</li> <li>• Not tested = 0.0</li> </ul>	See also comments on page 6 regarding the state's request to incorporate a growth model into its accountability system.

State and Contact Information	Year Approved	Model	Comments
		<p>Perie and Weiss (2009, p.2) describe how the PPI is applied: “the totals are summed to arrive at the index score. The goal is for all schools to have an index value of 1.0 by . . . 2013-2014. To calculate interim targets, the difference between the current year’s index and 100 is calculated. Then that difference is divided by the number of years between the current year and 2014.”</p>	
<p><b>13. Rhode Island</b> (performance model)</p> <p>Mary Ann Snider  <a href="mailto:maryAnn.snider@ride.ri.gov">maryAnn.snider@ride.ri.gov</a></p>		<p>Obtains the Index Score from the following weights:</p> <ul style="list-style-type: none"> <li>• Proficient with Distinction: = 100 Index Points</li> <li>• Proficient : = 100 Index Points</li> <li>• Below Proficient : = 75 Index Points</li> <li>• Substantially Below Proficient &amp; Upper Half of Scale Range: = 50 Index Points</li> <li>• Substantially Below Proficient &amp; Lower Half of Scale Range: = 25 Index Points</li> <li>• No Score and Below Guess Level: = 0 Index Points</li> </ul> <p>Index Score of the school or student group is the average Index score of the school or student group.</p>	
<p><b>14. South Carolina</b> (performance model)</p> <p>Gary West  <a href="mailto:gwest@ed.sc.gov">gwest@ed.sc.gov</a></p>	2005	<p>The performance indices use the same logic that underlies the absolute ratings used in the state, although the indices will appear very different in order to avoid confusion. The numbers of students in a school/district/group who score Proficient or Advanced, Basic, Below Basic 2 and Below Basic 1 are determined. (Below Basic 1 is a level that was defined for use in the state’s absolute ratings. It includes scores that fall two standard deviations below the cutoff between Below Basic and Basic.) The numbers are multiplied by weights: scores of Proficient or Advanced = 100; scores of Basic = 75; Below Basic 2 = 50; and Below Basic 1 = 25. The results are summed and divided by the total number of scores. The result is the index value. If all students score at least Proficient, the index will equal 100.</p>	

State and Contact Information	Year Approved	Model	Comments
		<p>To set the statewide index value, the same procedures are followed that were used to set overall AYP objectives. Using 2004 data, the state calculated the percentage of students scoring proficient/advanced on each test and sorted the schools from highest to lowest. They identified the schools at the twentieth percentile of the state's enrollment and calculated performance indices. The results became the state's baseline figures.</p> <p>To set the values for individual groups within schools or districts, the state calculated the indices for each group, subtracted the indices from 100 (the highest possible value), and divided by the number of years until 2014. The values are recalculated each year.</p> <p>To satisfy the student academic achievement requirement in SC, each group needs to meet any one of the five options, listed below, in both ELA and mathematics.</p> <p><i>Option 1.</i> The percent of students scoring proficient or advanced must meet or exceed the current year objectives for ELA and mathematics.</p> <p><i>Option 2.</i> The mean percent of students scoring proficient or advanced for the most recent three years, including the current year, must meet or exceed the objectives for ELA and mathematics.</p> <p>Important Note for Safe Harbors 1-3 which follow: If a school or district meets AYP by using the safe harbor provision, the student group(s) meeting safe harbor also must meet the target for the other indicator.</p> <p><i>Option 3.</i> (Safe Harbor 1) The percent of students scoring "below proficient" in the current school year must decline by at least 10 percent from the percent in the previous school year.</p> <p><i>Option 4.</i> (Safe Harbor 2) Performance Index (PI) must meet or exceed the current</p>	

State and Contact Information	Year Approved	Model	Comments																												
		<p>year's objectives for ELA and mathematics. Calculate the PI for each subject separately.</p> <p>a. The PI is a weighted score using the number of students in each of the five performance levels and the corresponding weights. The following table illustrates how to calculate the Performance Index (PI).</p> <table border="1"> <thead> <tr> <th>Performance Level (using SEM-adjusted PACT scores)</th><th>Number of Students</th><th>Weight</th><th>N x Weight</th></tr> </thead> <tbody> <tr> <td>Below Basic 1</td><td>100</td><td>25</td><td>2,500</td></tr> <tr> <td>Below Basic 2</td><td>200</td><td>50</td><td>10,000</td></tr> <tr> <td>Basic</td><td>100</td><td>75</td><td>7,500</td></tr> <tr> <td>Proficient</td><td>100</td><td>100</td><td>10,000</td></tr> <tr> <td>Advanced</td><td>200</td><td>100</td><td>20,000</td></tr> <tr> <td>Totals:</td><td>700</td><td></td><td>50,000</td></tr> </tbody> </table> <p>b. Performance Index (PI) = <math>50,000/700 = 71.4</math>. If the subgroup with a 71.4 PI value for ELA is from an elementary school, then the objective in this example is 68.3. If 71.4 exceeds the target, the student group satisfies the requirements for this example.</p> <p><i>Option 5. (Safe Harbor 3)</i> The student group's actual performance index (PI) gain from the previous year to the current year must meet or exceed the student group's required PI gain from the previous year to the current year, which is <math>100 - \text{PI in}</math></p>	Performance Level (using SEM-adjusted PACT scores)	Number of Students	Weight	N x Weight	Below Basic 1	100	25	2,500	Below Basic 2	200	50	10,000	Basic	100	75	7,500	Proficient	100	100	10,000	Advanced	200	100	20,000	Totals:	700		50,000	
Performance Level (using SEM-adjusted PACT scores)	Number of Students	Weight	N x Weight																												
Below Basic 1	100	25	2,500																												
Below Basic 2	200	50	10,000																												
Basic	100	75	7,500																												
Proficient	100	100	10,000																												
Advanced	200	100	20,000																												
Totals:	700		50,000																												



State and Contact Information	Year Approved	Model	Comments
		previous year/7 for the 2007-08 school year. (The student group's PI gain is computed by subtracting the group's previous year's PI from the group's current year's PI. The divisor is 7 for the group's required PI gain because it is the number of years until 2013-14.)	
<b>15. Vermont</b> (performance model)  Gail Taylor <a href="mailto:gail.taylor@state.vt.us">gail.taylor@state.vt.us</a>	2003	Submitted a request to split its lowest achievement level into two parts with different values. Performance in the lower half of this lowest level has a value of 125 points; 250 in the upper half; 375 in the just below proficient level; and 500 at the proficient and advanced levels.	
<b>16. Washington</b> (proficiency model)	2007	Multi-grade averaging model patterned after Iowa's and Mississippi's. The index is calculated as follows: <ul style="list-style-type: none"> <li>• Determine the difference between % proficient and the AMO for each grade.</li> <li>• Establish a proficiency index weighting constant by dividing the number of students in a grade by the total number of students within the school.</li> <li>• Calculate the difference between the % proficient and the AMO multiplied by the proficiency weighting constant.</li> <li>• The proficiency index for the school is the sum of all individual grade-level proficiency index components.</li> <li>• A proficiency index of zero or higher indicates that the AMO has been met (by a particular student group in the school).</li> </ul>	Originally submitted in 2006 but verbally denied by ED. (Washington law required the state to establish an index).
<b>17. Wisconsin</b> (performance model)  Lynette Russell <a href="mailto:Lynette.russell@dpi.wi.go">Lynette.russell@dpi.wi.go</a>	2006	Awards one point for all proficient and advanced scores, one-half for scores at basic, and none for below basic. State does not apply a status model as one of its "AYP screens."	

State and Contact Information	Year Approved	Model	Comments
<a href="#">V</a>			
<b>18. Wyoming</b> (proficiency model)  Laurel Ballard <a href="mailto:lballa@educ.state.wy.us">lballa@educ.state.wy.us</a>	2006	Multi-grade averaging model very similar to Iowa's. WY has different AMOs for elementary (3-6), middle (7-8), and high school (11) grades that are applied across a wide variety of school configurations.	

Notes:

1. Delaware's proposed indexing model (2003) was denied. It would have apportioned student representation across student groups rather than repeated across groups.
2. Louisiana was approved in 2003 to use an index with several components, one which was a growth indicator to identify schools for rewards. However, the index was not intended to be used in AYP determinations in terms of identifying schools or districts for improvement.
3. Oregon's proposed model (2003) was also denied. It would have assigned 33 points to a low score; 67 to a "partially meets" score; 100 points to a proficient score; and 133 points to an advanced score. The state set its 2014 target at 115 points—halfway between proficient and advanced.

## REFERENCES

- Briggs, K. L. (2007, June 27). Letter to chief state school officers in selected states regarding invitational meeting to be held for states using indexes in AYP determinations. Washington, DC: U. S. Department of Education.
- Briggs, K. L. (2008, June 10). Letter to Alice Seagren, Minnesota Commissioner of Education, denying approval of the state's request to incorporate a growth model in its accountability system. Washington, DC: U. S. Department of Education.
- Briggs, K. L. (2008, June 10). Letter to Gerald L. Zahorchak, Pennsylvania Secretary of Education, denying approval of the state's request to incorporate a growth model in its accountability system. Washington, DC: U. S. Department of Education.
- Briggs, K. L. (2008, December 2). Letter to chief state school officers transmitting updated guidance with respect to performance indexes and their role in accountability decisions under NCLB. Washington, DC: U. S. Department of Education.
- Brownstein, A. (2009, March). Education dept. releases policy letter questioning use of "performance indexes" in determining AYP. *Title I Monitor*, 13(3)10.
- Conaty, J. C. (2009, June 19). Letter to Gerald L. Zahorchak, Pennsylvania Secretary of Education, denying approval of the state's request to continue use of all existing elements of its accountability system. Washington, DC: U. S. Department of Education.
- Duncan, A. (2009, April 1). Letter to chief state school officers regarding Title I regulations issued by former ED Secretary Margaret Spellings. Washington, DC: U. S. Department of Education.
- Dunn, J. L. (2009, June). *Comparing the use of a growth model and an index in a state accountability system*. Presentation at the National Conference on Student Assessment, Los Angeles, CA.
- Final Regulations, Title I (correction)—Improving the Academic Achievement of the Disadvantaged [regarding assessment, accountability, public school choice, and supplemental educational services], 73 Fed. Reg. 78636 (December 23, 2008) (to be codified at 34 CFR Part 200).
- Johnson, H. L. (2006, April 11). Letter to Elizabeth Burmaster, Wisconsin Superintendent of Public Instruction, regarding amendments to the state's educational accountability workbook. Washington, DC: U. S. Department of Education.
- Marion, S., White, C., Carlson, D., Erpenbach, W. J., Rabinowitz, S., & Sheinker, J. (2002, December). *Making valid and reliable decisions in determining adequate yearly progress*. Washington, DC: Council of Chief State School Officers.
- Perie, M., Park, K., & Klau, K. (2007, December). Key elements for educational accountability models. Washington, DC: Council of Chief State School Officers.

Perie, M. & Weiss, J. (2009, June). *Comparing different accountability measures: Status, improvement, index, growth—How are they alike and how do they differ?* Paper presented at the National Conference on Student Assessment, Los Angeles, CA. Available at [www.nciea.org](http://www.nciea.org)

Spellings, M. (2005, November 21). Key policy letter signed by the education secretary or deputy secretary [transmitting information on applications for growth models under NCLB]. Retrieved May 15, 2009, from <http://www.ed.gov/print/policy/elsec/guid/secletter/051121.html>

U. S. Department of Education (2008, September 16). Meeting materials. National Technical Advisory Council. Washington, DC: Author, Office of Elementary and Secondary Education. Retrieved May 15, 2009, from <http://www.ed.gov/about/bdscomm/list/ntac/index.html>

U. S. Department of Education (2008, November 20). Meeting materials. National Technical Advisory Council. Washington, DC: Author, Office of Elementary and Secondary Education. Retrieved May 15, 2009, from <http://www.ed.gov/about/bdscomm/list/ntac/index.html>

Weiss, J. (2009, June). *Comparing different accountability measures: Status, improvement, index, growth—How are they alike and how do they differ?* Presentation at the National Conference on Student Assessment, Los Angeles, CA.

## Appendix A

### Synopsis of Significant Events in the Evolution of Indexing Models

Date	Event	Significance
January 2002	NCLB Enactment.	Although not expressly authorized, law does not prohibit the use of performance and proficiency indexes including the weighting of student achievement by proficiency levels in AYP determinations.
November 21, 2005	Spellings letter to CSSOs <sup>15</sup> regarding growth models includes reference to indexes and “conditions” for approval.	Secretary reiterates the four “conditions” used by ED to approve states’ indexing models. Although not explicitly stated, the conditions appear to apply exclusively to performance indexing. Secretary’s letter does not foreshadow possibility of additional “conditions” or criteria.
June 27, 2007	Briggs letter to CSSOs in 12 states (AL, MA, MN, MS, NH, NY, OK, PA, RI, SC, VT, and WI) announcing invitational meeting to discuss performance indexing models.	ED identifies 12 states with approved performance indexes and invites them to a meeting to analyze “the impact of performance indexes on AYP determinations.” States using a proficiency indexing model were not invited.
September 7, 2007	Meeting of representatives of 12 states and ED officials to discuss possible need for review of the approved performance index models.	ED articulates five main reasons supporting (the department’s) perceived need for specific guidance around indexing systems. ED never issues additional guidance; instead, a set of eight “statutory requirements” related to performance indexing is released in December 2008.
June 10, 2008	Briggs letter to MN and PA DOEs denying approval of a growth model because the state uses a performance index model in	ED adds another heretofore never signaled new requirement to the approval of both performance indexing and growth models

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<sup>15</sup> Chief State School Officers

Date	Event	Significance
	connection with AYP determinations.	(one or the other but not both). In her letter, Briggs states that she “will task the . . . [NTAC] to review this issue.”
September 16, 2008	NTAC holds first meeting. Performance indexing is the first agenda topic.	Contrary to Briggs’ letters to MN and PA, the NTAC is not asked to comment on the matter of whether a state should be prohibited from using both a performance index and a growth model in AYP determinations.
October 29, 2008	Spellings releases additional Title I regulations.	The regulations include a new section on growth models but nothing related to indexing.
December 2, 2008	Briggs letter to CSSOs announcing updated guidance related to the use of performance indexing in AYP determinations. The letter does not include any non-regulatory guidance but does cite, for the first time, eight statutory regulations the department now considers applicable to performance indexing.	The “statutory requirements” arguably introduce new, additional requirements for states with an already approved performance indexing model. The most significant change would prohibit states from using indices as “an additional method of determining AYP.”
April 1, 2009	Duncan letter to CSSOs stating he would seek repeal of some provisions in the October 2008 Title I regulations.	Duncan states that he plans to seek repeal of the requirement that states revise their educational accountability workbooks and submit those for Peer Review in mid-2009. Justification of existing performance indexing models would have been required along with the re-submittal of previously approved accountability workbooks.